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ABSTRACT

This publication is a reference document meant to accompany other National Skill Standards Board (NSSB) publications that describe the development of skill standards, including Built to Work: A Common Framework for Skill Standards. This companion guide provides the NSSB Complexity Rating Skill Scales. Chapter 1 explains briefly how this tool fits into the NSSB's larger efforts to develop national skill standards. Chapter 2 contains the academic skill scales. These academic knowledge and skills categories are included: mathematics, science, reading, and writing. Chapter 3 contains the employability skill scales. These employability knowledge and skills categories are included: listening; speaking; using information and communications technology; gathering and analyzing information; analyzing and solving problems; making decisions and judgments; organizing and planning; using social skills; adaptability; working in teams; leading others; building consensus; and self-development and career development. In both chapters, knowledge and skills are further divided into complexity dimensions and complexity subdimensions. For each (sub)dimension, the level of complexity (low, moderate, or high) required for performing the critical work function is identified. (YLB)

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Skill Scales Companion Guide

National Skill Standards Board

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Preface

About This Guide...

This guide includes one of the tools being used to develop NSSB skill standards. It is a companion publication to *Built to Work: A Common Framework for Skill Standards* as well as other National Skill Standards Board (NSSB) publications about skill standards.

Who We Are...

The NSSB is a coalition of leaders from business, labor, employee, education, and community and civil rights organizations created in 1994 to build a voluntary national system of skill standards, assessment, and certification. The goal of this effort is to enhance U.S. global competitiveness and raise the living standard of all Americans. NSSB skill standards, which form the foundation of this new system, are being identified by Voluntary Partnerships, industry coalitions working in full partnership with labor, civil rights, and community-based organizations.

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National Skill Standards Board

Setting the Standard for Workforce Excellence

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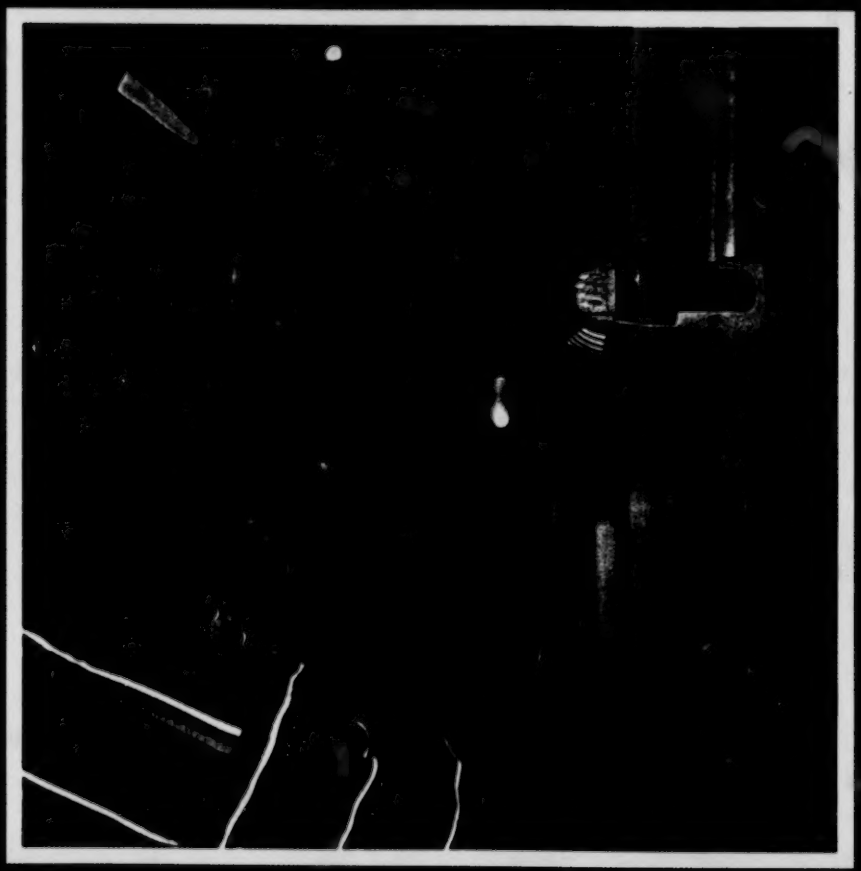

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Introduction

This publication is a reference document meant to accompany other NSSB publications that describe the development of skill standards, including *Built to Work: A Common Framework for Skill Standards*. In this companion guide, you will find the NSSB Complexity Rating Skill Scales, one of several NSSB tools being used to develop skill standards.

The following is a brief explanation of how this tool fits into the NSSB's larger efforts to develop national skill standards. A complete explanation of the NSSB Common Framework for Skill Standards can be found in *Built to Work: A Common Framework for Skill Standards*. For more information about how to use the skill scales, please contact the NSSB.

A Quick Review

Skill standards—as envisioned by the NSSB—are made up of two major components:

The *work*-oriented component—This aspect of the skill standards looks at what needs to be done on the job and how well. It includes:

- *Critical work functions*—The major responsibilities of work.
- *Key activities*—The major duties or tasks involved in carrying out a critical work function.
- *Performance indicators*—Information on how to determine when someone is performing a key activity competently.

The *worker*-oriented component—This aspect of the skill standards looks at the knowledge and skills someone needs to possess in order to fulfill these responsibilities.

The NSSB has identified three types of knowledge and skills:

- **Academic knowledge and skills:** The knowledge and skills associated with the academic disciplines of reading, writing, mathematics, and science.
- **Employability knowledge and skills:** The applied knowledge and skills used to perform effectively across a broad range of occupations—such as teamwork, decision making, and problem solving.
- **Occupational and technical knowledge and skills:** The occupational and technical knowledge and skills needed for work such as engine repair or database programming.

To identify knowledge and skill classifications, the NSSB convened an expert panel whose charge was to

USE OF THE SKILL SCALES

The NSSB Complexity Rating Skill Scales were created specifically for use in developing skill standards. The tool should not be used without prior consent of the NSSB. The NSSB will be providing technical assistance and tools for using the scales.

create a common language for describing the academic and employability knowledge and skills.*

A Common Language for Knowledge and Skills

The following is a list of categories of academic and employability knowledge and skills identified as part of the NSSB Common Framework:

Academic Knowledge and Skills Categories

- **Reading:** Understand and use written information that may be presented in a variety of formats, such as text, tables, lists, figures, and diagrams; select reading strategies appropriate to the purpose, such as skimming for highlights, reading for detail, reading for meaning, and critical analysis.

- **Writing:** Express ideas and information in written form clearly, succinctly, accurately, and in an organized manner; use English language conventions of spelling, punctuation, grammar, and sentence and paragraph structure; and tailor written communication to the intended purpose and audience.

- **Mathematics:** Understand, interpret, and manipulate numeric or symbolic information; solve problems by selecting and applying appropriate quantitative methods such as arithmetic, quantitative reasoning, estimation, measurement, probability, statistics, algebra, geometry, and trigonometry.

- **Science:** Understand and apply the basic principles of the physical, chemical, biological, and earth sciences; understand and apply the scientific method, including formulating and stating hypotheses and evaluating them by experimentation or observation.

Employability Knowledge and Skills Categories

- **Listening:** Attend to, receive, and correctly interpret verbal communications and directions through cues such as the content and context of the message and the tone, gestures, and facial expressions of the speaker.

- **Speaking:** Express ideas and facts orally in a clear and understandable manner that sustains listener attention and interest; tailor oral communication to the intended purpose and audience.

- **Using information and communications technology:** Select, access, and use necessary information, data, and communications-related technologies, such as basic personal computer applications, telecommunications equipment, Internet, electronic calculators, voice mail, email, facsimile machines, and copying equipment to accomplish work activities.

- **Gathering and analyzing information:** Obtain facts, information, or data relevant to a particular problem, question, or issue through observation of events or situations, discussion with others, research, or retrieval from written or electronic sources; organize, integrate, analyze, and evaluate information.

- **Analyzing and solving problems:** Anticipate or identify problems and their causes; develop and analyze potential solutions or improvements using rational and logical processes or innovative and creative approaches when needed.

* Because the occupational and technical knowledge and skills tend to be specific to each industry sector, the NSSB did not develop a common language for this category. Instead, the NSSB developed guidelines to help describe occupational and technical knowledge and skills for each industry sector.

- **Making decisions and judgments:** Make decisions that consider relevant facts and information, potential risks and benefits, and short- and long-term consequences or alternatives.

- **Organizing and planning:** Organize and structure work for effective performance and goal attainment; set and balance priorities; anticipate obstacles; formulate plans consistent with available human, financial, and physical resources; modify plans or adjust priorities given changing goals or conditions.

- **Using social skills:** Interact with others in ways that are friendly, courteous, and tactful and that demonstrate respect for individual and cultural differences and for the attitudes and feelings of others.

- **Adaptability:** Change one's own behavior or work methods to adjust to other people or to changing situations or work demands; be receptive to new information, ideas, or strategies to achieve goals.

- **Working in teams:** Work cooperatively and collaboratively with others to achieve goals by sharing or integrating ideas, knowledge, skills, information, support, resources, responsibility, and recognition.

- **Leading others:** Motivate, inspire, and influence others toward effective individual or team work performance, goal attainment, and personal learning and development by serving as a mentor, coach, and role model and by providing feedback and recognition or rewards.

- **Building consensus:** Build consensus among individuals or groups by facilitating agreements that involve sharing or exchanging resources or resolving differences in such a way as to promote mutual goals and interests; by persuading others to change their point of view or behavior without losing their future support; and by resolving conflicts, confrontations, and disagreements while maintaining productive working relationships.

- **Self and career development:** Identify own work and career interests, strengths, and limitations; pursue education, training, feedback, or other opportunities for learning and development; manage, direct, and monitor one's own learning and development.

Linking the Knowledge and Skills to Critical Work Functions

Using these descriptions of the academic and employability knowledge and skills, experts will identify which of these knowledge and skills are needed to perform each critical work function (along with its key activities and performance indicators).

To provide users with more detailed information, experts will identify, for a given knowledge or skill, the level of complexity required for performing a particular critical work function. The Complexity Rating Skill Scales, included in this publication, will be used as part of this effort.

Keep in mind that these scales are not for rating an individual's proficiency in a particular knowledge and skill. They are intended only for rating the level of complexity required in a particular knowledge and skill based on what the work requires.

CHAPTER 2

Academic Skill Scales

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MATHEMATICS

Understand, interpret, and manipulate numeric or symbolic information; solve problems by selecting and applying appropriate quantitative methods such as arithmetic, quantitative reasoning, estimation, measurement, probability, statistics, algebra, geometry, and trigonometry.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF MATHEMATICS CONTENT	**NUMBER SENSE AND COMPUTATION** *How complex are the number sense and computation skills used to perform this critical work function?*	• Skills used are highly complex, including a substantial understanding of number systems (i.e., natural, whole, integer, rational, irrational, real, and complex) and properties; an ability to compare, order, and interchange equivalent fractions, decimals, and percents; and use of significant digits and precision.	• Skills used are moderately complex, including an understanding of number systems (i.e., whole, rational, and irrational) and properties; an ability to read, write, order, add, subtract, multiply, and divide decimal numbers; an ability to interchange equivalent fractions, decimals, and percents; and use of ratios and proportions.	• Skills used are minimally complex, including a basic understanding of whole number systems and properties; an ability to read, write, order, add, subtract, multiply, and divide whole numbers; an ability to read and write simple fractions and decimals; and computation of money in dollars and cents.
	GEOMETRY, MEASUREMENT, AND SPATIAL SENSE *How complex are the geometry, measurement, and spatial sense skills used to perform this critical work function?*	• Skills used are highly complex, including a substantial understanding of geometry, measurement, and spatial sense; use of complex geometric terminology, techniques, and tools to measure quantities in order to achieve specified degrees of precision, accuracy, and error (or tolerance); use of right triangle trigonometry to find missing information about triangles; use of vectors; and estimation of volumes and surface areas of complex shapes and real objects.	• Skills used are moderately complex, including an understanding of geometry, measurement, and spatial sense; use of a variety of geometric shapes and terms; calculation of the perimeter, circumference, area, volume, and surface area of various two- and three-dimensional objects to specified degrees of precision; and use of the Pythagorean theorem, its converse, and properties of special right triangles to find missing information about triangles.	• Skills used are minimally complex, including a basic understanding of geometry, measurement, and spatial sense; use of basic geometric shapes and terms with concrete objects or drawings; measurement of length area, perimeter, circumference, diameter, height, weight, and volume to specified degrees of precision in both the customary and metric systems; and computation of time in hours and minutes.

MATHEMATICS

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COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
COMPLEXITY OF MATHEMATICS CONTENT	**COMPLEXITY OF DATA ANALYSIS, STATISTICS, AND PROBABILITY** *How complex are the data analysis, statistics, and probability skills used to perform this critical work function?*	• Required skills are highly complex, including a substantial understanding of data analysis, statistics, and probability; an ability to design and conduct statistical experiments to study a problem; interpretation and communication of the results using appropriate technology; interpretation and representation of data, comparing distributions of data and critiquing conclusions and the use of statistics; fitting of curves to scatter plots to determine the strength of the relationship between two data sets; use of sampling techniques to draw inferences about large populations; use of experimental and theoretical probability and combinations and permutations to solve problems; and use of application software to analyze and display data.	• Required skills are moderately complex, including an understanding of data analysis, statistics, and probability; an ability to gather, organize, represent, and interpret large sets of data; analysis and display of data with respect to frequency, distribution, and central tendencies (e.g., mode, range, mean, and median); evaluation of arguments based on statistical reasoning; determination of experimental and theoretical probabilities; and use of counting techniques to determine possible outcomes.	• Required skills are minimally complex, including a basic understanding of data analysis, statistics, and probability; an ability to collect, organize, and describe data; construction and display of data in line plots, graphs, tables, and charts; interpretation of data using the concepts of largest, smallest, most often, and middle; an ability to find average (mean) of sets of data; and determination of fairness and probability outcomes.

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MATHEMATICS

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COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF MATHEMATICS CONTENT	**FUNCTIONS AND ALGEBRAIC THINKING** *How complex are the functions and algebraic thinking skills used to perform this critical work function?*	• Skills used are highly complex, including a substantial understanding of algebraic ideas and representation; use of common types of functions (e.g., linear, exponential, periodic, quadratic, and cubic) to model real situations; use of equations to represent curves such as lines, circles, and parabolas; an ability to solve systems of equations using matrices and vectors; and an ability to work with properties and mechanics of functions (e.g., evaluation, inverses, slope, local maxima and minima).	• Skills used are moderately complex, including an understanding of algebraic ideas and representation; analysis of functional relationships to explain how a change in one quantity results in a change in another; an ability to solve one- or two-variable equations or inequalities; and an ability to model real-world phenomena using functions.	• Skills used are minimally complex, including a basic understanding of algebraic ideas and representation; an ability to create and use symbolic and graphical representations of patterns; an ability to simplify expressions and solve simple equations and inequalities; and an ability to describe, generalize, and use basic types of functional relationships.

MATHEMATICS

CONTINUED

COMPLEXITY OF MATHEMATICS CONTENT

COMPLEXITY DIMENSION / COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
COMPLEXITY OF REPRESENTATION AND COMMUNICATION *How complex are the representation and communication skills used to perform this critical work function?*	• Skills used are highly complex, including representation and communication of complex mathematical ideas using mathematical language to make complex situations easier to understand; an ability to organize work and present mathematical procedures and results clearly, systematically, succinctly, and correctly; clear communication of logical arguments, showing why a result makes sense and why the reasoning is valid; and an ability to write succinct accounts of the mathematical results obtained with diagrams, graphs, tables, and formulas integrated into the text.	• Skills used are moderately complex, including representation and communication of moderately complex mathematical ideas using numerical tables and equations, simple algebraic equations and formulas, charts, graphs, and diagrams; an ability to explain facets of a solution orally and in writing; and an ability to label drawings and use other techniques to make meaning clear to the audience.	• Skills used are minimally complex, including representation and limited communication of basic mathematical ideas using words, numbers, symbols, pictures, charts, graphs, and tables.

MATHEMATICS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF PROBLEM SOLVING	**MATHEMATICAL METHODS** *How complex are the mathematical methods used to perform this critical work function?*	• Problems require generation of multiple approaches to allow for comparison of results. Methods are highly complex and include formulating and carrying out detailed solutions to complex problems using multiple steps and appropriate problem-solving techniques; verifying the accuracy and validity of the mathematical procedures used to solve problems; and evaluating the validity and generalizability of results.	• Problems lend themselves to multiple solutions. Methods are moderately complex and include using appropriate computational procedures; evaluating approaches for effectiveness and making adjustments; using ratios, rates, and reason appropriately to solve problems; considering, testing, and justifying more than one solution; and generalizing solutions and strategies to new problem situations.	• Problems lend themselves to a single solution that produces clear or obvious results. Methods are minimally complex and include determining what a problem is asking; making sensible, reasonable estimates; and using a variety of approaches to solve problems.
	MATHEMATICAL REASONING *How complex is the mathematical reasoning used to perform this critical work function?*	• Reasoning used is highly complex, including using forms of reasoning and proof appropriate to solve the problem at hand (e.g., deductive and inductive reasoning, making and testing conjectures, using counterexamples and indirect proof) and differentiating clearly between giving examples that support a conjecture and giving a proof of that conjecture.	• Reasoning used is moderately complex, including making and investigating conjectures, developing and evaluating mathematical arguments and proofs, and selecting and using a variety of reasoning and methods of proofs as appropriate.	• Reasoning used is minimally complex, including formulating conjectures and being able to argue why they must be or seem true; making sensible, reasonable estimates; and making justified, logical statements.

MATHEMATICS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	COMPLEXITY LEVEL SCALE: MODERATE	COMPLEXITY LEVEL SCALE: LOW
COMPLEXITY OF PROBLEM SOLVING	**MATHEMATICAL TOOLS** *How complex are the mathematical tools used to perform this critical work function?*	• Tools used are highly complex; technological tools—such as graphing calculators, computer spreadsheets, matrix representation, and measuring devices (e.g., rulers, tapes, compasses, protractors), and self-generated computer programs—are used to analyze and solve multiple problems.	• Tools used are moderately complex; appropriate tools—such as calculators, computers, measuring devices (e.g., rulers, tapes, compasses, protractors), and mathematical texts—are used to analyze and solve problems.	• Tools used are minimally complex. Basic tools—such as pencil and paper, mental computation, and measuring devices (e.g., rulers, graph paper, measuring cups, scales), mathematical texts, manipulatives, and calculators—are used to solve problems.

SCIENCE

Understand and apply the basic principles of the physical, chemical, biological, and earth sciences; understand and apply the scientific method, including formulating and stating hypotheses and evaluating them by experimentation or observation.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
COMPLEXITY OF SCIENTIFIC INQUIRY	**DESIGN** *When performing this critical work function, how complex are the questions and design that guide the inquiry?*	• Highly complex questions guide scientific inquiry; investigations are designed using technology and mathematics to refine the inquiry process and resulting communications.	• Moderately complex questions guide scientific inquiry; investigations are designed using appropriate tools and techniques to gather, analyze, and interpret data.	• Minimally complex questions are asked about objects, organisms, and events in the environment; investigations are designed using simple equipment and tools to gather data.
	USE OF EVIDENCE *When performing this critical work function, how does evidence affect the explanation and analysis of scientific inquiry?*	• Evidence is used to formulate and revise scientific explanations and models; alternative explanations and models are recognized and analyzed; and scientific arguments are communicated and defended.	• Evidence is used to develop descriptions, explanations, and models; the relationship between evidence and explanations is made clear; and scientific procedures and explanations are communicated.	• Data and other evidence are used to construct a reasonable explanation.
COMPLEXITY OF UNDERSTANDING THE NATURE OF SCIENCE	**UNIFYING CONCEPTS AND PROCESSES** *To what degree is an understanding of overarching scientific concepts and processes used to perform this critical work function?*	• A substantial understanding of the nature of science is used, including complex unifying concepts such as systems and organization.	• A moderate understanding of the nature of science is used, including somewhat complex unifying concepts such as models.	• A basic understanding of the nature of science is used, including fundamental unifying concepts such as order, evidence, constancy, change, and measurement.

SCIENCE

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
COMPLEXITY OF CORE SCIENTIFIC CONTENT	**PHYSICAL SCIENCE** *To what degree is an understanding of physical science used to perform this critical work function?*	• A substantial understanding of physical science concepts is used (e.g., matter and its transformations; energy and its transformations; structure of atoms and of matter; bonding and molecular interaction; chemical reactions; motions and forces such as gravitational and electrical; net forces and magnetism; conservation of energy; energy conduction and convection and radiation; interaction of energy and matter).	• A moderate understanding of physical science concepts is used (e.g., matter and its transformations; energy and its transformations and motion; properties and changes of properties in matter; chemical reactivity; conservation of matter; motions and forces such as inertia and balanced and unbalanced forces; transfer of energy; light, mechanical motion, and sound; nature of a chemical reaction).	• A basic understanding of physical science concepts is used (e.g., properties of objects and materials; position and motion of objects; light, heat, electricity, and magnetism, including variation of heat and temperature).
	LIFE SCIENCE *To what degree is an understanding of life science used to perform this critical work function?*	• A substantial understanding of life science concepts is used (e.g., structure and function of cells; behavior and interdependence of organisms; ecology and change; energy and photosynthesis; molecular basis of heredity such as DNA, genes, chromosomes, and mutations; evolution, speciation, biodiversity, and natural selection; biological classification).	• A moderate understanding of life science concepts is used (e.g., structure and function in living systems such as cells, organs, tissues, organ systems, whole organisms, and ecosystems; reproduction and heredity; regulation and behavior; populations and ecosystems; evolution, diversity, and adaptation of organisms).	• A basic understanding of life science concepts is required (e.g., cells, organisms, characteristics and life cycles of organisms such as interdependence of animals and plants in an ecosystem, evolution and change over time).

SCIENCE

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
COMPLEXITY OF CORE SCIENTIFIC CONTENT	**EARTH AND SPACE SCIENCE** *To what degree is an understanding of earth and space science used to perform this critical work function?*	• A substantial understanding of earth and space science concepts is used (e.g., energy in the Earth system, geochemical cycles, origin and evolution of the Earth system, evolution of the solar system, natural resource management).	• A moderate understanding of earth and space science concepts is used (e.g., structure of the Earth system; Earth's history and processes including erosion and plate movement; change over time and fossil evidence; Earth in the solar system, including predictable motion of planets and moons).	• A basic understanding of earth and space science concepts is used (e.g., properties of Earth materials such as water, gases, rocks, and soils; characteristics of the sun, moon, planets; importance of the sun; forces that alter the Earth's surface such as weathering, volcanism, and earthquakes).
COMPLEXITY OF APPLIED SCIENCE	**SCIENCE AND TECHNOLOGY** *To what degree is an application of science and technology required when performing this critical work function?*	• Application of science and technology is used to design and implement a solution to a complex problem, choosing among several alternative approaches; design takes into consideration time constraints, costs, risks, and benefits.	• Application of science and technology is used to design and implement a solution to a moderately complex problem; timely results are required.	• Application of science and technology is used to identify a solution to a simple problem such as building or improving a basic product.
	SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVE *To what degree is an understanding of how science affects the individual and the community used to perform this critical work function?*	• A substantial understanding of how science affects the individual and the community is used (e.g., personal and community health, consequences of overpopulation, causes and effects of natural and human-induced hazards).	• A moderate understanding of how science affects the individual and the community is used (e.g., personal health and nutrition, population growth trends, consequences of natural hazards).	• A basic understanding of how science affects the individual and the community is used (e.g., personal health awareness, population characteristics, environmental changes).

READING

Understand and use written information that may be presented in a variety of formats, such as text, tables, lists, figures, and diagrams; select reading strategies appropriate to the purpose, such as skimming for highlights, reading for detail, reading for meaning, and critical analysis.

COMPLEXITY DIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
COMPLEXITY OF TEXT *How complex is the type of material to be read when performing this critical work function?*	• Highly complex or technical materials are read (e.g., technical manuals, reports, proposals, procedures, written commentaries, formal email, substantially visual material such as flowcharts); material contains high density of information and a substantial proportion of highly technical terms or unfamiliar vocabulary.	• Moderately complex or technical materials are read (e.g., letters, memos, email, multistep directions and instructions, reference materials, books on particular topics, visuals that support meaning such as charts, graphs, figures, diagrams, and maps).	• Simple, familiar, or nontechnical materials are read (e.g., labels, telephone messages, routine forms, lists, simple notes, signs, informal email).
COMPLEXITY OF READING SKILLS *How complex are the reading skills used to perform this critical work function?*	• Reading skills used are highly complex, including evaluation of the effectiveness of the text (i.e., its relevance, accuracy, efficiency, and appropriateness) and analysis of arguments and positions as to their validity, degree of bias and sufficiency of evidence.	• Reading skills used are moderately complex, including interpretation of information from multiple sources; integration of information with prior knowledge and experiences; and identification of complexities and discrepancies in the presented information.	• Reading skills used are minimally complex, including comprehension of simple written information to solve basic problems; literal understanding of text; and application of basic features of reading such as phonics, syllabication, and word parts.
COMPLEXITY OF READING PURPOSE *How complex is the reading purpose in performing this critical work function?*	• Reading purpose is highly complex; text is analyzed and evaluated, and information is applied to a new situation or task.	• Reading purpose is moderately complex; text is read to obtain information that is then communicated to others or used to perform a multistep task.	• Reading purpose is minimally complex; text is read to obtain general information or follow simple instructions to perform a task.

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WRITING

Express ideas and information in written form clearly, succinctly, accurately, and in an organized manner; use English language conventions of spelling, punctuation, grammar, and sentence and paragraph structure; tailor written communication to the intended purpose and audience.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
COMPLEXITY OF TEXT	**COMPLEXITY OF TEXT** *How complex is the type of material to be written in performing this critical work function?*	• Highly complex or technical materials are written (e.g., technical manuals, reports, proposals, procedures, written commentaries, formal email, substantially visual material such as flowcharts); material contains high density of information and a substantial proportion of highly technical terms or unfamiliar vocabulary.	• Moderately complex or technical materials are written (e.g., letters, memos, email, multistep directions and instructions, reference materials, books on particular topics, visuals that support meaning such as charts, graphs, figures, diagrams, and maps).	• Simple, familiar, or nontechnical materials are written (e.g., labels, telephone messages, routine forms, lists, simple notes, signs, informal email).
COMPLEXITY OF WRITING PRODUCT	**TYPE OF PRODUCT** *How complex are the materials produced in performing this critical work function?*	• The materials produced are highly complex or technical (e.g., technical manuals, reports, proposals, procedures, written commentaries, formal email, substantially visual products such as flowcharts).	• The materials produced are moderately complex (e.g., letters, memos, email, multistep directions and instructions, and visuals that support meaning such as charts, graphs, figures, diagrams, and maps).	• The materials produced are simple, familiar, and nontechnical (e.g., labels, telephone messages, routine forms, lists, tables, simple notes, signs, and informal email).

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WRITING

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
COMPLEXITY OF WRITING PRODUCT	**ORGANIZATION** *To what degree is product organization used to perform this critical work function?*	• A high degree of focus and logic is used, providing facts, details, and explanations grouped in a way that communicates clearly; writer anticipates needs and concerns of audience and may create layout or format for product; revisions highlight individual voice and style, using sentence variety and subtlety of meaning and tone for intended purpose and audiences.	• A moderate degree of organization and focus is used, providing needed facts and information; writer decides on most appropriate format; revisions are based on own review and on feedback from others.	• A minimal degree of organization is used; format is provided (e.g., labels, forms); minimal revision is required; writing is revised for basic grammar and usage.
	ELABORATION *To what degree is elaboration required to convey meaning in performing this critical work function?*	• Accurate, sufficient, and accessible elaboration and explanations are used, providing specific facts and other information, to support and convey meaning.	• Moderate elaboration is used, providing some examples and reasons, to convey meaning.	• Minimal elaboration is needed to convey meaning.
COMPLEXITY OF WRITING PROCESS	**WRITING DEVELOPMENT** *How complex is the level of writing development used to perform this critical work function?*	• A highly complex level of writing development is used, including evaluation of the effectiveness of own writing—including accuracy, efficiency, appropriateness of presented information—for clarity in communication and style; anticipation of possible effect of writing on intended audience.	• A moderately complex level of writing development is used, including interpretation of information from multiple sources and synthesis with prior knowledge and experiences; identification of complexities and discrepancies in the information; application of precise word choice and appropriate tense for clarity in communication and individual style.	• A minimally complex level of writing development is used, including application of formal conventions of the English language, including spelling, grammar, usage, punctuation, simple paragraph structure, and simple sentence construction.

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WRITING

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COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF WRITING PURPOSE	**TO INFORM** *To what degree are different strategies used to inform the reader in performing this critical work function?*	• Multiple strategies (e.g., generalizations, examples, compare or contrast, question and answer) are incorporated and integrated to inform the reader.	• One or two different strategies (e.g., classification or categorization of information) are applied to inform the reader.	• Minimal strategies (e.g., lists) are applied to inform the reader.
	TO PERSUADE *To what degree are persuasive arguments used to influence the reader in performing this critical work function?*	• Complex logical arguments are used to persuade the reader; complex and varied details, supporting information, and evidence from multiple sources are used; author is aware of reader's possible preference for reasons, details, explanations, and examples.	• Moderately complex logical arguments are used to persuade the reader; some supporting information or evidence is used.	• Minimally complex logical arguments are used to persuade the reader; writing is generally directed to a single audience.

CHAPTER 3

Employability Skill Scales

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LISTENING

Attend to, receive, and correctly interpret verbal communications and directions through cues such as the content and context of the message and the tone, gestures, and facial expressions of the speaker.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF COMMUNICATION	**CONTENT COMPLEXITY** *To what degree is subject matter complex, unfamiliar, or technical when performing this critical work function?*	• Subject matter is highly complex, unfamiliar, or technical.	• Subject matter is moderately complex, unfamiliar, or technical.	• Subject matter is simple, familiar, or nontechnical.
	DEMANDS ON ATTENTION *How carefully must one listen because of communication length or lack of structure when performing this critical work function?*	• Communication is lengthy or unstructured, requiring sustained, careful attention.	• Communication is of moderate length or partially structured, requiring close attention.	• Communication is brief or highly structured, requiring limited attention.

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LISTENING

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF COMMUNICATION	**COMMUNICATION INDIRECTNESS** *To what degree is subject matter conveyed indirectly through subtleties of language, tone, expressions, or gestures when performing this critical work function?*	• Subject matter is largely conveyed indirectly through subtleties of language, tone, expressions, or gestures.	• Subject matter is partially conveyed indirectly through subtleties of language, tone, expressions, or gestures and partially through simple, direct verbal terms.	• Subject matter is conveyed in simple, direct verbal terms that do not involve subtleties of language, tone, expressions, or gestures.
BARRIERS TO COMMUNICATION	**LIMITATIONS ON INTERACTION** *How difficult is it to interact with the speaker or to ask questions when performing this critical work function?*	• There is little or no opportunity to interact with the speaker or to ask questions.	• There is some opportunity to interact with the speaker or to ask questions.	• There is ample or unlimited opportunity to interact with the speaker or to ask questions.
	DISTRACTIONS *To what degree are physical, social, or psychological distractions present (e.g., noise, other activity, time pressure) when performing this critical work function?*	• Distractions are present to a great degree.	• Distractions are present to some degree.	• Distractions are present to a minimal degree.

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SPEAKING

Express ideas and facts orally in a clear and understandable manner that sustains listener attention and interest; tailor oral communication to the intended purpose and audience.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF COMMUNICATION	**CONTENT COMPLEXITY** *How complex, novel, or technical is the subject matter presented or spoken about when performing this critical work function?*	• Highly complex, novel, or technical information is presented or spoken about.	• Moderately complex, novel, or technical information is presented or spoken about.	• Simple, familiar, or non-technical information is presented or spoken about.
	TACT AND SENSITIVITY REQUIRED *To what degree is subject matter sensitive, controversial, or likely to be questioned or challenged when performing this critical work function?*	• Subject matter is highly sensitive, controversial, or likely to be questioned or challenged; a high degree of tact is required.	• Subject matter is moderately sensitive, controversial, or likely to be questioned or challenged; some tact is required.	• Subject matter is not sensitive, controversial, or likely to be questioned or challenged; there are no special concerns about tactfulness.

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SPEAKING

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF COMMUNICATION	**COMMUNICATION INDIRECTNESS** *To what degree is subject matter conveyed indirectly through subtleties of language, tone, expressions, or gestures when performing this critical work function?*	• Subject matter is largely conveyed indirectly through subtleties of language, tone, expressions, or gestures.	• Subject is partially conveyed indirectly through subtleties of language, tone, expressions, or gestures and partially through simple, direct verbal terms.	• Subject matter is conveyed in simple, direct terms that do not involve subtleties of language, tone, expressions, or gestures.
CONTEXT DEMANDS	**DIVERSITY OF AUDIENCE** *How diverse are the listeners or audiences in terms of size, perspectives, level of expertise or authority, and prior familiarity with subject matter when performing this critical work function?*	• The listeners or audiences are highly diverse.	• The listeners or audiences are moderately diverse.	• The listeners or audiences are very homogeneous.

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SPEAKING

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
CONTEXT DEMANDS	**CONSTRAINTS ON PREPARATION** *To what degree are there constraints on the time or resources available to prepare communication when performing this critical work function?*	• Little or no preparation time or resources are available: speaking is generally extemporaneous or on-demand (i.e., "responding on one's feet").	• Moderate preparation time or resources are available: some improvisation or adaptation is required.	• Ample time and resources are available to prepare fully.
	DISTRACTIONS *To what degree is communication impeded by physical, social, or psychological distractions (e.g., noise, other activity, time pressure) when performing this critical work function?*	• Speaker must contend with or overcome a high degree of distractions.	• Speaker must contend with or overcome some distractions.	• There are few (or no) distractions to contend with or overcome.
	LISTENER RESISTANCE *To what degree is communication challenged by listeners' lack of interest, skepticism, or disagreement when performing this critical work function?*	• Listeners are usually uninterested, skeptical, or in opposition or disagreement.	• Listeners vary in the degree to which they are uninterested, skeptical, or in opposition or disagreement.	• Listeners are usually interested and receptive.

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USING INFORMATION AND COMMUNICATIONS TECHNOLOGY

Select, access, and use necessary information, data, and communications-related technologies, such as basic personal computer applications, telecommunications equipment, Internet, electronic calculators, voice mail, email, facsimile machines, and copying equipment, to accomplish work activities.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF TECHNOLOGY APPLICATION	**COMPLEXITY OF EQUIPMENT OR TECHNOLOGY** *How sophisticated, unusual, or unique is the equipment or technology used to perform this critical work function?*	• Equipment or technology is highly complex or unusual.	• Equipment or technology is somewhat complex or unusual.	• Equipment or technology is relatively simple or familiar.
	COMPLEXITY OF APPLICATIONS *How sophisticated, unusual, or unique are the required applications of the equipment or technology used to perform this critical work function?*	• Applications are highly complex or unusual or require using the most advanced features or capabilities, troubleshooting problems, or creating new or customized applications.	• Applications are somewhat complex or unusual or require using some advanced features or capabilities.	• Applications are relatively simple or familiar or require using basic features or capabilities.

USING INFORMATION AND COMMUNICATIONS TECHNOLOGY

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF TECHNOLOGY APPLICATION	**TRAINING TIME CONSTRAINTS** *How limited is the time available to learn how to use the technology before applying it when performing this critical work function?*	• Technology must be mastered and used immediately.	• Limited time is available to learn the technology before its application; learning continues as the technology is used.	• Sufficient training and learning time is available to understand and master the technology before its application.
FREQUENCY OF TECHNOLOGYCHANGE	**NEW LEARNING REQUIRED** *How much new learning is required because of the frequency of changes in equipment, technology, or applications involved in performing this critical work function?*	• A high degree of new learning is required, because changes are frequent or involve the introduction of entirely new technology; documentation or information on use of the technology is incomplete or not available.	• Some new learning is required that builds directly on existing skill or knowledge, because changes are moderately frequent or mostly involve upgrades that enhance existing features; documentation or information on use of the technology varies in completeness or availability.	• Little new learning is required, because changes are infrequent or minor; complete documentation or information on use of the technology is readily available.

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GATHERING AND ANALYZING INFORMATION

Obtain facts, information, or data relevant to a particular problem, question, or issue through observation of events or situations, discussion with others, research, or retrieval from written or electronic sources; organize, integrate, analyze, and evaluate information.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
DIFFICULTY OF INFORMATION GATHERING	**AMOUNT OF INFORMATION** *How much information needs to be gathered to perform this critical work function?*	• An extensive amount of information is required.	• A moderate amount of information is required.	• A limited amount of information is required.
	NUMBER AND VARIETY OF SOURCES *In performing this critical work function, how many and how variable are the sources from which information must be gathered and the methods used to gather it?*	• A large number of widely different sources (e.g., written, oral, electronic) are required; many different information-gathering methods are used.	• A moderate number of somewhat different sources are required; several different information-gathering methods are used.	• A small number of similar sources are required; one or two information-gathering methods are used.
	RESOURCEFULNESS NEEDED *To what degree are information sources unknown, unclear, or difficult to access when performing this critical work function?*	• Information sources are largely unknown, requiring individual to perform groundwork and develop own leads.	• Information sources are partially defined or known, but additional research may be required after initial information gathering.	• Sources of information are well established and easily accessible.

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GATHERING AND ANALYZING INFORMATION

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF ANALYSIS	**COMPLEXITY OF INFORMATION AND ANALYSIS** *In performing this critical work function, how complicated or technical is the information to be analyzed, and how rigorous or sophisticated is the analysis required?*	• Information is highly complex or technical, requiring rigorous or sophisticated analytic approaches.	• Information is moderately complex or technical or is of varying complexity, requiring analytic approaches of moderate or varying rigor or sophistication.	• Information is simple, straightforward, or non-technical, requiring simple analytic approaches.
	NEED TO EVALUATE SOURCE INFORMATION *In performing this critical work function, to what degree must information or its sources be evaluated for credibility or relevance?*	• Most information is of questionable or unknown reliability, requiring substantial vetting of information or sources; relevance of information is difficult to discern.	• Some information is of questionable or unknown reliability, or information is of varying reliability, requiring some vetting of information or sources; relevance of information is sometimes apparent.	• Most information is of known reliability, requiring no further vetting of information or sources; relevance of information is obvious.
	LACK OF ANALYSIS GUIDELINES *In performing this critical work function, to what degree is the organization or analysis of information challenged by a lack of available guidelines?*	• Little or no guidelines, precedents, or models are available to guide organization or analysis of information.	• Some guidelines, precedents, or models are available to guide organization or analysis of information, or such guidance is available for some of the information.	• Information is organized or analyzed on the basis of well-established guidelines, precedents, or models.

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ANALYZING AND SOLVING PROBLEMS

Anticipate or identify problems and their causes; develop and analyze potential solutions or improvements using rational and logical processes or innovative and creative approaches when needed.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
PROBLEM COMPLEXITY	**PROBLEM UNIQUENESS OR DIFFICULTY** *In performing this critical work function, to what degree are problems unique, unusual, or difficult, making them hard to anticipate or requiring creative or nonobvious solutions?*	• Problems are highly unique or difficult, having many potential causes and little similarity to prior problems, making them difficult to anticipate and requiring new, unusual, or innovative solutions.	• Problems are moderately unique or difficult, having several potential causes and some similarity to prior problems but also some novel features, making them somewhat difficult to anticipate and requiring some new or innovative solutions and some solutions guided by existing precedents or known procedures.	• Problems are relatively simple, routine, recurring, and easily recognized and anticipated, having a single likely cause and lending themselves to straightforward logical solutions based on existing precedents or known procedures.
	NUMBER AND RANGE OF PROBLEMS *In performing this critical work function, what is the frequency of occurrence and variety of problems or problem elements?*	• A large number of different types of problems, or problems having a large number of elements or facets, occur.	• A moderate number of similar types of problems, or problems having a moderate number of elements or facets, occur.	• A small number of simple, straightforward problems that have only one or two elements or facets occur.

ANALYZING AND SOLVING PROBLEMS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
SOLUTION COMPLEXITY	**NUMBER AND COMPLEXITY OF POSSIBLE SOLUTIONS** *In performing this critical work function, to what degree is problem solving challenged by multiple possible solutions or inconclusive results?*	• Multiple solutions must be generated; substantial judgment is required to discern or select the best solution from results that are often inconclusive or ambiguous.	• A few solutions are possible; some judgment is required to discern or select the best solution from results that may be inconclusive or ambiguous.	• Problems lend themselves to a single solution that produces clear or obvious results.

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MAKING DECISIONS AND JUDGMENTS

Make decisions that consider relevant facts and information, potential risks and benefits, and short- and long-term consequences or alternatives.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
DEGREE OF JUDGMENT OR INFERENCE REQUIRED	**LACK OF GUIDANCE OR PRECEDENTS** *In performing this critical work function, to what degree is decision making challenged by the absence of precedents or informed input available to aid decision making?*	• Few or no precedents or informed input is available.	• Precedents or informed input is available to aid or guide some decisions.	• Precedents or informed input is available to aid or guide most or all decisions.
	INTEGRATION DIFFICULTY *In performing this critical work function, how difficult is it to integrate the information needed for decision making because of the amount of information, number of information sources, or information ambiguity?*	• Integration of information is highly difficult; large amounts of complex, ambiguous, or contradictory information are drawn from many sources.	• Integration of information is moderately difficult; moderate amounts of somewhat complex, ambiguous, or contradictory information are drawn from several sources.	• Integration of information is not difficult; small amounts of simple, straightforward, or consistent information are drawn from one or two sources.

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MAKING DECISIONS AND JUDGMENTS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
DEGREE OF JUDGMENT OR INFERENCE REQUIRED	**QUANTITY OR AMBIGUITY OF RISKS AND CONSEQUENCES** *In performing this critical work function, how difficult is it to evaluate the potential risks, benefits, and short- and long-term consequences of decisions because of their quantity or ambiguity?*	• There are many potential risks and consequences; they are usually unclear, ambiguous, or difficult to discern, evaluate, or predict.	• There are some potential risks and consequences; they vary in the degree to which they are difficult or easy to discern, evaluate, or predict.	• There are few potential risks and consequences; they are usually straightforward, obvious, and easy to discern, evaluate, or predict.
INDIVIDUAL DECISION-MAKING RESPONSIBILITY	**ACCOUNTABILITY AND AUTONOMY** *In performing this critical work function, to what degree is the individual accountable for his or her decisions and able to implement them on his or her own authority?*	• Individual is fully accountable for own decisions and has complete decision authority, responsibility, or discretion.	• Individual has partial accountability for own decisions and has limited decision authority, responsibility, or discretion.	• Individual has little decision accountability and must always obtain decision approval or concurrence from others.

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MAKING DECISIONS AND JUDGMENTS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
INDIVIDUAL DECISION-MAKING RESPONSIBILITY	**ABSENCE OR AMBIGUITY OF RULES OR POLICY CONSTRAINTS** *In performing this critical work function, to what degree is decision making challenged by the absence of explicit policies, rules, or procedures or by ambiguous or contradictory rules or policies?*	• Few or no explicit, ambiguous, or contradictory policies, rules, or procedures constrain decision latitude.	• Explicit policies, rules, or procedures, or potentially contradictory rules or policies, constrain latitude for some decisions.	• Most or all decisions are governed by explicit or consistent policies, rules, or procedures.

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ORGANIZING AND PLANNING

Organize and structure work for effective performance and goal attainment; set and balance priorities; anticipate obstacles; formulate plans consistent with available human, financial, and physical resources; modify plans or adjust priorities given changing goals or conditions.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF PLANS	**GOAL COMPLEXITY OR AMBIGUITY** *In performing this critical work function, how complex or ambiguous are work objectives or goals?*	• There are multiple, complex short- and long-term objectives, or highly ambiguous or ill-defined objectives.	• There are general short- and long-term objectives; some objectives vary in clarity or definition.	• There are limited, straightforward, or clearly defined short-term objectives.
	FLEXIBILITY REQUIRED *How much flexibility is needed to perform this critical work function?*	• Substantial flexibility is required, including continuous or frequent monitoring of progress and readjustment of priorities; multiple alternative plans are required.	• Some flexibility is required, including general monitoring of progress and occasional readjustment of priorities; a single backup plan is required.	• Little or no flexibility is required; monitoring of progress, readjustment of priorities, and backup plans are rarely or never required.
	RESOURCE COORDINATION REQUIRED *How much resource coordination is needed to perform this critical work function?*	• Human, financial, or physical resources are coordinated across multiple work groups.	• Human, financial, or physical resources are coordinated within own work group.	• Resources are allocated by others; hence, no resource coordination is required.

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ORGANIZING AND PLANNING

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
COMPLEXITY OF PLANS	**SCOPE AND EFFECTS OF PLANNING** *In performing this critical work function, for how many people must one plan and how far reaching is the impact?*	• Individual is responsible for planning and prioritizing for many people; plans affect efficiency, productivity, costs, or goal achievement of multiple work groups or entire organization.	• Individual is responsible for planning and prioritizing for a few people; plans affect efficiency, productivity, costs, or goal achievement of own work group.	• Individual is responsible for planning and prioritizing own work only; plans affect individual efficiency, productivity, or work objectives.
CONSTRAINTS ON PLANNING	**LACK OF GUIDELINES** *In performing this critical work function, to what degree is planning challenged by the absence of guidelines, precedents, or standard operating procedures?*	• Few or no guidelines, precedents, or standard operating procedures are available.	• Some guidelines, precedents, or standard operating procedures are available.	• Guidelines, precedents, or standard operating procedures are available to guide planning for virtually all work objectives.
	LACK OF FEEDBACK *In performing this critical work function, to what degree is planning challenged by the absence of useful feedback on performance or progress toward objectives?*	• Limited or ambiguous feedback is provided on performance or progress toward objectives.	• Feedback on performance or progress toward objectives is of varying availability, clarity, and usefulness.	• Readily available, clear and useful feedback is provided on performance or progress toward objectives.

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ORGANIZING AND PLANNING

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
CONSTRAINTS ON PLANNING	**CONSTRAINTS ON RESOURCE AVAILABILITY** *In performing this critical work function, to what degree are there constraints on needed resources?*	• Human, financial, or physical resources are highly constrained.	• Human, financial, or physical resources are marginally adequate.	• Human, financial, or physical resources are constrained minimally or not at all.

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USING SOCIAL SKILLS

Interact with others in ways that are friendly, courteous, and tactful and that demonstrate respect for individual and cultural differences and for the attitudes and feelings of others.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF SOCIAL INTERACTIONS	**DIVERSITY** *In performing this critical work function, how diverse are the people interacted with in terms of demographics (e.g., race, gender, age, culture, education, experience), work roles or functions, or levels of authority?*	• People interacted with are highly diverse.	• People interacted with are moderately diverse.	• People interacted with are very homogeneous.
	STRUCTURE OR PROTOCOL REQUIRED *In performing this critical work function, to what degree are knowledge of and adherence to formal protocols or procedures required in social interactions?*	• Social interactions require knowledge of and adherence to special or formal protocols or procedures.	• Social interactions require some knowledge of and adherence to special or formal protocols or procedures, or they vary in the degree to which such protocols are required.	• Social interactions are casual or informal, requiring no special or formal protocols or procedures.

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USING SOCIAL SKILLS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
COMPLEXITY OF SOCIAL INTERACTIONS	**TACT AND SENSITIVITY REQUIRED** *In performing this critical work function, to what degree do social interactions involve personal, sensitive, controversial, or conflict-laden issues?*	• Social interactions involve highly personal, sensitive, controversial, or conflict-laden issues, requiring a high degree of tact, diplomacy, and awareness of and openness to social cues.	• Social interactions involve somewhat personal, sensitive, controversial, or conflict-laden issues, or vary in the degree to which they involve such issues, requiring some degree of tact, diplomacy, and awareness of and openness to social cues.	• Social interactions do not involve personal, sensitive, controversial, or conflict-laden issues and require no special concerns for tact or diplomacy or particular awareness of or openness to social cues.

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ADAPTABILITY

Change one's own behavior or work methods to adjust to other people or to changing situations or work demands; be receptive to new information, ideas, or strategies to achieve goals.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
DEGREE OF ADAPTABILITY REQUIRED	**FREQUENCY OF CHANGE** *In performing this critical work function, to what degree are openness to change and new learning, and adjustment of work methods or behavioral styles, necessary because of frequent changes in technology, work content, or organizational structure or culture?*	• Frequent or rapid changes necessitate a high degree of openness to change and new learning as well as frequent adjustment of work methods or behavioral styles to new situations or people.	• Somewhat frequent or gradual changes necessitate some degree of openness to change and new learning as well as occasional adjustment of work methods or behavioral styles to new situations or people.	• Infrequent or slow changes necessitate little or no openness to change or new learning or adjustment of work methods or behavioral styles to new situations or people.
DIFFICULTY OF ADAPTING	**UNPREDICTABILITY OF CHANGE** *In performing this critical work function, how ambiguous or unpredictable are the extent, nature, and duration of technology, work, or organizational changes?*	• Changes are highly ambiguous or unpredictable.	• Changes are somewhat ambiguous or unpredictable, or they vary in their clarity or predictability.	• Changes are straightforward and predictable.

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ADAPTABILITY

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
DIFFICULTY OF ADAPTING	**LACK OF SUPPORT FOR CHANGE** *In performing this critical work function, to what degree is adaptation challenged by the absence of precedents, guidelines, processes, or training resources to prepare for or cope with new technology, new work content, or organizational changes?*	• Few or no precedents, guidelines, processes, or training resources are available.	• Some precedents, guidelines, processes, or training resources are available.	• Relevant precedents, guidelines, processes, or training resources are readily available.

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WORKING IN TEAMS

Work cooperatively and collaboratively with others to achieve goals by sharing or integrating ideas, knowledge, skills, information, support, resources, responsibility, and recognition.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
DEGREE OF COLLABORATION REQUIRED	**TASK INTERDEPENDENCE** *In performing this critical work function, to what degree are team tasks or activities performed collaboratively, or are individual team member tasks affected by or dependent on those performed by other team members?*	• Team activities are highly collaborative; individual tasks are highly affected by the performance of other team members.	• Team activities are somewhat collaborative; individual tasks may be affected partially by the performance of other team members.	• Team activities are minimally collaborative; individual tasks are affected minimally by the performance of other team members.
TEAM MEMBER HETEROGENEITY	**TEAM DIVERSITY** *In performing this critical work function, to what degree is the team comprised of people with diverse backgrounds, levels of expertise, or perspectives?*	• The team is highly diverse.	• The team is moderately diverse.	• The team is very homogeneous.

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WORKING IN TEAMS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
GOAL OR ROLE AMBIGUITY	**LACK OF CLARITY OR SUPPORT FOR TEAM GOALS** *In performing this critical work function, to what degree is teamwork challenged by ambiguous or poorly supported team purposes or goals?*	• Purpose and goals of the team are vague, ill defined, or not well supported by the organization.	• General purpose and goals of the team are clear, but detailed objectives are not elaborated fully; organization support is moderate or variable.	• Purpose and goals of the team are clear, straightforward, well elaborated, and strongly supported by the organization.
	LACK OF CLARITY OR STABILITY OF RESPONSIBILITIES *In performing his critical work function, to what degree is teamwork challenged by poorly defined or unstable team member roles and responsibilities?*	• Responsibilities are not well defined; roles shift frequently.	• Responsibilities vary in clarity; roles shift occasionally.	• Responsibilities are clear and well defined; roles rarely shift.

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LEADING OTHERS

Motivate, inspire, and influence others toward effective individual or teamwork performance, goal attainment, and personal learning and development by serving as a mentor, coach, and role model and by providing feedback and recognition or rewards.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
WORK CHALLENGES	**CHALLENGES TO GOAL ATTAINMENT** *In performing this critical work function, to what degree is attainment of goals challenged by ambiguous or complex goals, time pressure, or resource constraints?*	• Goal attainment is highly challenged by ambiguous or complex goals, time pressure, or resource constraints.	• Goal attainment is challenged somewhat by varying degrees of ambiguous or complex goals, time pressure, or resource constraints.	• Challenges to goal attainment are minimized as a result of clear, simple, and well-defined goals; adequate time frames; or lack of resource constraints.
	WORK STRUCTURING REQUIREMENTS *In performing this critical work function, to what degree does work require setting goals and priorities, delegating, and structuring the work of others?*	• Work requires a high degree of structuring.	• Work requires a moderate degree of structuring.	• Work requires a limited degree of structuring.

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LEADING OTHERS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
WORK CHALLENGES	**SCOPE AND COMPLEXITY OF LEADERSHIP RESPONSIBILITY** *In performing this critical work function, to what degree does work entail leadership of large, diverse, or geographically dispersed groups or teams?*	• Leadership is responsible for multiple or large groups comprised of individuals who are highly diverse in their demographics (e.g., race, gender, age, culture, education, experience), roles or functions, or levels of expertise or who are dispersed geographically.	• Leadership is responsible for a few small groups or a single moderately large group comprised of individuals who are somewhat diverse in their demographics (e.g., race, gender, age, culture, education, experience), roles or functions, or levels of expertise or who may be separated geographically from the others.	• Leadership is responsible for a single small group comprised of individuals who are relatively homogeneous in their demographics, roles or functions, or levels of expertise and who are located in the same geographic area.
PEOPLE CHALLENGES	**COACHING OR MONITORING NEEDS** *How much staff coaching, mentoring, direction, and oversight is needed to perform this critical work function?*	• A high degree of coaching or oversight is needed because of limited capabilities or self-direction of staff.	• A moderate or varying degree of coaching or oversight is needed because of varying capabilities or self-direction of staff.	• A minimal degree of coaching or oversight is needed because of high capabilities or self-direction of staff.
	CONFLICT MANAGEMENT NEEDS *In performing this critical work function, how much conflict management is required as a result of the nature of the work or the diversity of the staff?*	• Many internal conflicts or sensitivities must be managed.	• A moderate or varying degree of internal conflicts or managed sensitivities must be managed.	• Few internal conflicts or sensitivities must be managed.

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BUILDING CONSENSUS

Build consensus among individuals or groups by facilitating agreements that involve sharing or exchanging resources or resolving differences in such a way as to promote mutual goals and interests; by persuading others to change their point of view or behavior without losing their future support; and by resolving conflicts, confrontations, and disagreements while maintaining productive working relationships.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
CONSENSUS PROCESS INHIBITORS	**NUMBER AND DIVERSITY OF STAKEHOLDERS** *Among how many diverse individuals or groups must consensus be achieved in performing this critical work function?*	• Consensus must be achieved among a large number of highly diverse individuals or groups.	• Consensus must be achieved among a moderate number of somewhat diverse individuals or groups.	• Consensus must be achieved among a relatively small number of fairly homogeneous individuals or groups.
	AMBIGUITY OF GOALS *In performing this critical work function, to what degree are consensus stakeholders' goals unclear or ambiguous?*	• Stakeholders' goals are vague or ill defined, significantly impeding the consensus process.	• Stakeholders' goals vary in their clarity and definition or are defined at a very general level only, resulting in a somewhat challenging consensus process.	• Stakeholders' goals are clear and well defined, significantly facilitating the consensus process.

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BUILDING CONSENSUS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
CONSENSUS PROCESS INHIBITORS	**LACK OF ORGANIZATIONAL SUPPORT, INCENTIVES, OR CONSENSUS LEADERSHIP** *In performing this critical work function, to what degree is the consensus process impeded by an absence of organizational support or incentives to reach consensus or by an absence of an influential leader or facilitator of consensus?*	• Minimal or no organizational support or other incentives are present; consensus is impeded by the absence of a leader or neutral party with relevant knowledge and expertise or authority to intervene.	• A moderate or varying degree of organizational support or other incentives are present; consensus is facilitated somewhat by the presence of a leader or neutral party with either relevant knowledge and expertise or authority to intervene or force agreement.	• A high degree of organizational support or other incentives are present; consensus is facilitated greatly by the presence of a leader or neutral party with relevant knowledge and expertise and authority to intervene or force agreement.
	HIGH CONSENSUS STANDARD *What extent of agreement must be reached to achieve consensus in performing this critical work function?*	• Unanimous agreement is required.	• Less than unanimous agreement is required.	• Majority or plurality of agreement is required.
DIFFICULTY OF ISSUES REQUIRING CONSENSUS	**COMPLEXITY OF ISSUES** *How complex are the issues on which consensus is sought in performing this critical work function?*	• Issues are complex and multifaceted.	• Issues are moderately complex, variable in their complexity, or may have several facets.	• Issues are simple and straightforward, with few underlying facets.

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BUILDING CONSENSUS

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
DIFFICULTY OF ISSUES REQUIRING CONSENSUS	**CONTENTIOUSNESS OF ISSUES** *In performing this critical work function, to what degree are the issues on which consensus is sought sensitive, personal, or contentious, eliciting varying or divergent expectations, perspectives, or opinions?*	• Issues are highly sensitive, personal, or contentious and tend to elicit widely varying or divergent expectations, perspectives, or opinions.	• Issues are moderately sensitive, personal, or contentious and tend to elicit somewhat varying or divergent expectations, perspectives, or opinions.	• Issues are nonsensitive, impersonal, or noncontentious and tend to elicit minimally varying or divergent expectations, perspectives, or opinions.
	LACK OF OPPORTUNITIES FOR AGREEMENT *In performing this critical work function, to what degree does the nature of the issues make resolution or compromise difficult?*	• Issues are structured or characterized in a way that provides few possibilities for resolution or compromise.	• Issues are structured or characterized in a way that provides some possibilities for resolution or compromise.	• Issues are structured or characterized in a way that provides many possibilities for resolution or compromise.

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SELF AND CAREER DEVELOPMENT

Identify own work and career interests, strengths, and limitations; pursue education, training, feedback, or other opportunities for learning and development; manage, direct, and monitor one's own learning and development.

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE		
		HIGH	MODERATE	LOW
NEED FOR LEARNING AND DEVELOPMENT	**SELF AND CAREER DEVELOPMENT REQUIREMENTS** *In performing this critical work function, to what degree is planning for and engagement in self or career development activities required?*	• Frequent or rapid changes in work content or technology necessitate continuous planning for and engagement in learning and development activities.	• Somewhat frequent or gradual changes in work content or technology necessitate planning for and engagement in learning and development activities at regular intervals.	• Infrequent or slow changes in work content or technology necessitate little or no planning for or engagement in learning and development activities.
LIMITATIONS ON LEARNING AND DEVELOPMENT OPPORTUNITIES	**TIME, RESOURCE, OR SUPPORT CONSTRAINTS** *In performing this critical work function, to what degree are learning and development opportunities limited by available time, resources, or organizational support?*	• Learning and development opportunities are highly limited.	• Learning and development opportunities are somewhat limited.	• Learning and development opportunities are readily available.

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SELF AND CAREER DEVELOPMENT

CONTINUED

COMPLEXITY DIMENSION	COMPLEXITY SUBDIMENSION	COMPLEXITY LEVEL SCALE: HIGH	MODERATE	LOW
LIMITATIONS ON LEARNING AND DEVELOPMENT OPPORTUNITIES	**APPLICATION CONSTRAINTS** *In performing this critical work function, to what degree are opportunities to use or apply learning and development activities to one's work limited?*	• Opportunities to use or apply learning and development activities to one's work are highly limited or nonexistent.	• Opportunities to use or apply learning and development activities to one's work are available to some degree or for some aspects of what was learned.	• Most or all learning and development activities are applicable to one's work.

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